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IN SITU SPECTRORADIOMETRIC CALIBRATION  
OF EREP IMAGERY  
AND OCEANOGRAPHY OF BLOCK ISLAND SOUND

Monthly Progress Report - October 1973

Contract No. - NAS9-13308

EREP Investigation: 069/070

Principal Investigator: Dr. Edward Yost

Date: 19 October 1973

Technical Monitor:

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Houston, Texas 77058

## 1. Introduction

This document constitutes the monthly progress report on "In Situ Spectroradiometric Calibration of EREP Imagery and Oceanography of Block Island Sound, Skylab EREP Investigation 069/070". This research is being conducted under National Aeronautics and Space Administration Contract No. NAS9-13308. The objectives of this investigation are:

(a) To relate radiometric spectra measurements to space-acquired imagery over test sites in Arizona under EREP task nos. 701224 and 701269.

(b) To determine the utility of sensor systems for oceanographic studies and the correlation of ground-truth acquired in Block Island Sound, New York, with the Skylab data collected under EREP task nos. 646609 and 646638.

## 2. Work Status

During the reporting period, a quick-look preliminary analysis of the Skylab-2 190A multispectral imagery was performed. The particular areas in the imagery included Bagdad and Willcox Playa in Arizona. The different black-and-white bands from the multispectral S190A imagery were reprocessed for better density enhancement and an evaluation of each band was made. The analysis indicates the following results:

(1) The resolution and the over-all quality of the S190A data acquired by Skylab seems to be very promising for earth resources studies.

(2) The surface rock structures adjacent to Bagdad, Arizona, can be differentiated. For example, the Sanders basalt appears to have a darker tone in the .6-.7 nm band than the surrounding quartz monzonite.

The additive color analysis of Skylab imagery is being performed. Different multispectral renditions will be made for the frames containing the test sites and a method of projecting three different multispectral images simultaneously as different colors onto photographic paper is being tried by using an additive color viewer. It is hoped that this would be most helpful in maintaining the good resolution and density differences on the imagery supplied by NASA Houston.

Aircraft imagery taken over Block Island Sound and New York waters on 12 September 1973 has been received. This imagery was taken on the Skylab overpass day for EREP task nos. 646609 and 646638. The ground truth data obtained by two research vessels on the same day is also being reduced and analyzed.